

<https://doi.org/10.1038/s44168-024-00151-z>

# Community rights and energy politics in a pro-fracking Appalachian town

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Research shows that conservatives support fossil fuel extraction and distrust regulation. Yet scholarship overlooks where environmentalist and conservative interests may align—a question I explore through studying a rural, white, and conservative Pennsylvania community where many leased their land for shale gas drilling (fracking). Landowners endorsed fracking and discredited state regulators and environmentalists. Eventually, however, many became troubled by how their land sovereignty and community “home rule” were eroded by petroleum companies and state zoning preemption laws. Though few rejected fracking outright, most believed their town should be allowed to manage the industry’s footprint. Although climate advocates increasingly view local sovereignty as enabling NIMBYism that stymies climate action, communities often experience state-led energy siting policies as a *procedural injustice*. Regarding fracking, community empowerment would abet climate action by enabling municipal checks on industrial expansion. Environmentalists could forge alliances with rural, conservative towns by supporting greater local democratic decision-making over fracking.

Scott McClain, a retired game warden and Trump supporter, was reportedly “gung ho” about leasing his mountainside five-acre property to an energy firm that wanted to drill for natural gas beneath the surface. It wasn’t just about the money—the lifelong resident of the rural, sparsely populated hamlet of Cogan Station, Pennsylvania was under no illusions that he would get rich (the few people he knew who earned life-changing money were farmers who had dozens of acres to lease). Leasing the land surrounding his modest ranch house for fossil fuel extraction was consistent with this self-styled mountain man’s moral valorization of traditional libertarian tenets like self-reliance, property rights, free markets, and energy independence. Scott closely identified with his Scotch-Irish forebears who settled in this small Appalachian hollow. As a homage to those individualist pioneers, he still referred to his rugged estate as a homestead. He took some pride in making this ancestral land productive again, this time by “farming” methane instead of cows or crops. As much as Scott distrusted the slick “land man” who promised to turn lessors into Beverly Hillbillies, he was more cynical of government bureaucrats whose ostensible purpose was to protect him from corporate predation and environmental harm. Scott preferred to settle things personally, with a handshake; if things went awry, he said, he always had his sidearm.

Public opinion polls show that political affiliation strongly shapes people’s views toward energy and environmental issues<sup>1</sup>. Respondents who, like Scott, identify as conservative tend to support fossil fuel extraction and distrust environmental regulatory agencies, while progressives strongly favor renewable energy and stringent government oversight of industry<sup>2,3</sup>. Regarding fracking in particular, prior studies suggest that partisan identity

strongly predicts support for and opposition to shale gas development, net of material interests<sup>4</sup>—notwithstanding reports that even some conservative-leaning residents of “fracking communities”<sup>5</sup> express concern about quality-of-life issues and feel misled by petroleum companies<sup>6</sup>.

Consistent with the aforementioned research, most landowners I met through an ethnography I carried out in predominantly-conservative Lycoming County, Pennsylvania endorsed fracking, situated their support in relation to their partisan identities, and viewed government efforts to regulate the industry as a threat to personal liberty and property rights (see<sup>7</sup>). Scott was hardly alone in viewing a band of local environmentalists pushing for a fracking ban—known as the Responsible Drilling Alliance (RDA)—as a “bunch of wackos.” As I report elsewhere, Scott and his neighbors saw the “fractivists” as interlopers who “have no clue about rural values”<sup>8</sup>. However, while Scott publicly maintained support for shale gas drilling over the eight years I followed him, he became resentful of how energy firms usurped his land sovereignty and of how state zoning preemption laws neutered his town’s ability to put guardrails on the industry. After truck caravans rumbling along his shared gravel driveway to access a neighbor’s gas wells made his chimney collapse, Scott and his erstwhile girlfriend sat in lawn chairs for days to block them. She was issued a restraining order and, soon after, Scott lost the right to carry his firearm after gas workers reportedly told the police that he menaced them with a gun. In the aftermath, their state representative paid them a courtesy visit and explained that there was nothing he or any other local politicians could do because the state arrogated the township’s right to oversee fracking infrastructure and related truck traffic. Scott was incensed at what he felt was an assault on local democracy. The politician

gently suggested that resistance was futile and that Scott may want to move, concluding, “Life’s too short.” Scott toughed it out a few more years, but after truck caravans cracked his home’s foundation and “left my life in ruin” he decamped two hours south—where there was no shale gas.

I know a number of landowners like Scott who began as “true believers” but grew disillusioned with fracking over the eight years I studied them. All had experienced negative spillover effects from industrial activity—from minor annoyances like potholed roads to catastrophes like explosive tap water—that led them to doubt that petroleum firms could be trusted to regulate themselves. Even so, few adopted a NIMBY stance toward fracking, and most continued to say that the industry benefitted the community. They remained aloof from the local fractivists because the latter’s emphasis on greater government oversight and call for a total ban on fracking was an affront to people who distrusted the bureaucrats in Harrisburg and didn’t like the idea of outsiders telling them what they can or can’t do on their own property. In the spirit of Tocqueville (and Elinor Ostrom), most believed the solution to this perceived “procedural injustice”<sup>6</sup> was restoring the community’s power to write and enact land use ordinances so that locals dictated the placement and scope of gas infrastructure.

Because scholars focus on the pro-extraction and “anti-regulatory and anti-science dimensions” of conservative environmental politics<sup>9</sup>, we know little about when or how conservative partisanship may align with environmental protection efforts today. (Before right-wing elites initiated a climate change countermovement in the 1990s, Republicans like Richard Nixon and Russell Train embraced environmentalism; see refs. 10,11) *Community empowerment* has historically been a demand of progressive environmental justice advocates resisting the disproportionate, often involuntary siting of toxic facilities in poor and minority (and mostly urban) neighborhoods<sup>12</sup>, as well as the paradigm famously championed by Elinor Ostrom<sup>13</sup> for sustainably and equitably managing natural resources. But U.S.-based climate advocates increasingly frame local control as enabling NIMBYism (especially in wealthier, white suburbs and exurbs) that blocks climate action, like using zoning to stop wind turbines or multi-family homes<sup>14,15</sup>. Indeed, “local opposition to renewable energy facilities is widespread” and “represents a potentially significant impediment to [the] achievement of climate goals”<sup>16</sup>. I leverage a unique, long-term ethnography to argue that, in the distinct case of fracking, it is the state’s preemption of community “home rule” in Pennsylvania (and most other oil- and gas-producing states; see ref. 17) that impedes climate action because even many residents who condone fracking want greater restrictions on the industry than their capital imposes. Grassroots environmental groups, I suggest, can find common cause with conservative, pro-extraction communities by campaigning for greater local control over fracking and framing it as a community rights/local democracy issue (rather than as a macro-environmental issue; see also<sup>17</sup>). My analysis of local resistance to the capitol preemption of municipal zoning also speaks to recent efforts to recast grassroots opposition to large-scale wind and solar as a legitimate “rural environmental justice concern”<sup>18</sup> grounded in a perceived history of rural disempowerment and exploitation at the hands of urban elites. Attempts to fast-track renewable energy projects by bypassing community participation are helping fuel a rural backlash against the green energy infrastructure that America urgently needs<sup>16,19</sup>.

Following an overview of the relevant literature, I briefly summarize the regulatory context and my research setting. I then turn to the observational and interview data gathered as part of a long-term study of a rural Pennsylvania community that is living through the boom-bust cycles of shale gas extraction (see ref. 8). While a previous paper<sup>7</sup> highlighted the role of residents’ partisan identities in undergirding support for fracking in their (literal and figurative) backyard, the data herein emphasize that conservative partisanship didn’t lock in continuous, unconditional support for the industry; their experience with fracking molded distinct “extractive subjectivities”<sup>20</sup>. Most residents I knew publicly maintained a pro-fracking, anti-state regulation stance over the eight years I followed them. However, I demonstrate that they routinely appealed to municipal bodies (e.g., township Board of Supervisors) to rein in the industry when they believed it was infringing

upon their land sovereignty or communal resources and, in turn, publicly aired their frustration when local leaders responded that state preemption laws disempowered them from using municipal land-use ordinances to address community concerns. The paper’s last section grapples with the contested place of local decision-making in climate policy. Complementing research that frames rural community participation in renewable energy projects both as a procedural justice issue and as a mechanism for securing local acceptance<sup>21</sup>, I build the case that community empowerment can be a pathway toward catalyzing grassroots resistance to fossil fuel expansion in conservative towns. Though partly speculative and aspirational (no such organized resistance has yet emerged in the place I studied), I point to a Pennsylvania town where residents and environmentalists mobilized a community rights campaign against fracking infrastructure. Given polarization around climate change, reaching rural and conservative residents is critical<sup>22</sup>. Both scholars and activists, I suggest, overlook how progressive-led efforts to limit fossil fuel infrastructure, and to ensure that the green energy transition is just<sup>23</sup>, can be aligned with ostensible conservative/small-town values like self-rule.

It is well known that conservative American think tanks, foundations, corporate actors (e.g., CEOs, trade associations), and political action committees have formed “networks of opposition”<sup>10</sup> to climate action over the past several decades. The climate change countermovement (CCCM) is “grounded in corporate interests seeking to maintain a fossil-fuel-based energy system and its economic benefits” and is “augmented by a range of neoliberal ideological interests that are opposed to government regulations” of all kinds<sup>24</sup>. Central to the CCCM’s “playbook”<sup>25</sup>, which it executes through “sophisticated public relations campaigns,” astroturf “front groups,” and conservative media<sup>24</sup>, has been *denial*—i.e., manufacturing scientific uncertainty about the existence and causes of global warming<sup>26</sup> and attacking the experts—and *obstruction*—i.e., providing campaign funding and in-kind gifts to politicians who oppose regulating fossil fuels while lobbying against pro-environmental legislators and bills.

The CCCM has been remarkably effective at helping lock in the “social inertia”<sup>27</sup> that delays climate action. Its success can be seen not only in the American policy arena, where regulatory outcomes have been limited to “those that do not require the major, near-term transitions” needed to ameliorate climate change<sup>24,28</sup>, but also in the degree to which environmental protection has become a partisan flashpoint in America’s “culture wars”: the gap between Republicans and Democrats regarding support for environmental protection was negligible in 1992 but ballooned to 39% by 2012<sup>1,29</sup>. “Nothing matters more than partisanship” in explaining Americans’ views on climate action today, a Pew study suggests<sup>30</sup>, and political ideology is the “most consistent and strong predictor” of whether one trusts environmental regulatory agencies (and government more broadly<sup>31</sup>). Unsurprisingly, there is also a rural/urban divide, with rural voters “less supportive of government oversight of the environment,” and of climate action in general, than suburban/urban voters, “even controlling for partisanship and other demographics”<sup>22</sup>.

The same partisan, rural/urban divide manifests in people’s views of energy infrastructure. Self-identified conservatives consistently report greater levels of support for disruptive forms of fossil fuel production like oil and gas drilling and pipelines—regardless of proximity—and accept risk in the name of free enterprise<sup>32–35</sup>). Progressives tend to favor renewable forms of energy<sup>23</sup> and support stringent government regulation of risky land uses in the name of the public good<sup>36,37</sup>. Regarding fracking in particular, research has shown that partisanship is “an essential lens” that shapes residents’ perception of the industry<sup>38</sup>. It was majority-Democratic towns that sought local bans on fracking in New York<sup>38</sup> as the governor mulled whether to allow fracking statewide (it was banned in 2014), and it was urban progressives who pushed (unsuccessfully) for a statewide ban in Illinois<sup>39</sup>. Complementing this quantitative work, my ethnography of a rural, mostly conservative Pennsylvania community shows that residents’ commitment to self-reliance and property rights and cynicism toward government undergirded support for fracking—even when they didn’t personally benefit<sup>7,8</sup>. Perhaps counterintuitively, proximity to gas wells is also correlated with

support for fracking, independent of political affiliation<sup>32,40</sup>. (This “inverse NIMBY dynamic”<sup>34</sup> was observed among rural residents living along the proposed route of the contentious Keystone XL pipeline).

While opposition to fracking is concentrated in cities, where land leasing and drilling is uncommon, and “blue” states, studies have observed dissatisfaction, and occasional unrest, among residents who leased their land for extraction in more rural, conservative-leaning areas<sup>41–44</sup>. Several case studies of rural regions of Pennsylvania have found that residents commonly voiced concerns about the threats fracking posed to their quality of life<sup>40</sup>, and that some worried it threatened their way of life (e.g., farming<sup>6,45</sup>), leading some scholars to suggest that we shouldn’t take the lack of mobilization against fracking as proof that residents voluntarily consent to how energy firms operate on their land or in their communities<sup>6,45</sup>. A common theme undergirding residents’ concerns is a feeling of *disempowerment*. As Stephanie Malin and colleagues observe<sup>46,47</sup> private contracts between petroleum companies and lessors provide structural advantages to the former, such that landowners reportedly felt pressured to sign a lease without adequate information, were unable to meaningfully negotiate their lease terms or control what happened on their land after they signed, and had little recourse if and when energy firms harmed their property or their health. This alleged absence of *personal* agency (but, see ref. 7) is augmented by an impoverished *collective* capacity to make decisions about how fracking unfolds due both to local zoning preemptions enacted by oil- and gas-producing states<sup>46</sup> and lawmakers’ stance of not using statewide ballot measures to decide policy. Critics call this bypassing of public participation a “procedural injustice” and argue that it “rigged” the process in favor of oil and gas development<sup>47</sup>. This legal-political structure also tilts personal decision-making in favor of leasing because landowners understood they would absorb externalities from their neighbors’ leases no matter what. Even so, the landowners I met endorsed this maximization of private property rights, for they believed the decision of whether to frack under *their* land should ultimately be theirs, and they were in favor of fossil fuel extraction. Zoning was one property restriction many abided, partly because it protected them from spillover effects of others’ land uses but also because their community—not state bureaucrats—made the rules<sup>8</sup>.

The idea of *community empowerment* and local self-rule, “often romanticized in the form of the New England town meeting”<sup>48</sup> so famously depicted almost 200 years ago in Tocqueville’s classic *Democracy in America*, has long held bipartisan appeal in the U.S. Indeed, the notion of “community itself,” Levine<sup>48</sup> argues, is a “floating signifier” that—however defined (e.g., geographically, demographically, politically)—is always perceived as “something positive and valued” and often functions as a discursive embodiment of “the common good” and “commonly held democratic ideals” (see also ref. 49). Historically, Skocpol<sup>50</sup> argues, conservatives have mythologized the Jeffersonian era of small-government America, “when local civic voluntarism solved the country’s problems apart from—actually instead of—extralocal government.” Yet progressive social movements, especially in the 1960s and 70s, including but not limited to environmental justice (EJ) advocates, have also seized on community empowerment as a powerful tool for reversing the injustices that structural racism has imposed on impoverished, minority urban neighborhoods—from forced eviction via eminent domain in the name of “urban renewal” to the disproportionate siting of landfills, polluting factories, and other environmental hazards in historically redlined areas<sup>51,52</sup>. The EJ mantra “We speak for ourselves” encapsulates a demand not just for *distributive justice*—i.e., equal protection from environmental bads and equal access to environmental goods—but also for *procedural justice*—i.e., the recognition of people’s cultural and community identity and the capacity of community stakeholders to have a say in environmental policy decisions that affect them<sup>12</sup>. Although it is debatable that ensuing government reforms have lived up to the democratic ideal<sup>53</sup>, local participation in land use decisions has been institutionalized<sup>48</sup> in various forms (e.g., community boards, zoning hearings, public comment periods). Of course, Ostrom<sup>13</sup> won a Nobel Prize for showing how the community-led management of common pool natural resources could be a more sustainable and equitable solution to the tragedy

of the commons than privatization or top-down regulation; this resonates with recent calls for prioritizing traditional ecological knowledge and Indigenous-led conservation<sup>54</sup>.

The urgency and scale of the climate crisis, however, are forcing analysts to consider how democracy—both in theory and in practice—may be in tension with climate action. Di Paola & Jamieson<sup>55</sup> note that “the global scope” and “long-term reach” of climate change “require democracies to make robust commitments to multilateral cooperation, long-term planning, [and] significant deviations from the status quo.” But such commitments often clash with “citizens’ expressed preferences,” as many of the benefits of managing climate change accrue to “spatiotemporally distant people (i.e., the global poor and future generations)”<sup>55</sup>. Moreover, with increasing global temperatures and extreme weather events, many natural resources can no longer be sustainably managed by the kinds of local democratic institutions that Ostrom lionized last century (e.g., Maine’s lobster councils). “The world’s biggest collective action problem”<sup>56</sup> can’t be addressed at the community level. What’s more, local democracy is increasingly being seen as a barrier to climate action as communities—especially in wealthier, majority-white neighborhoods and towns—use their “say” to stymie the large-scale infrastructure projects necessary to: adapt to rising sea levels (e.g., the Lower Manhattan seawall<sup>57</sup>), preserve open space and biodiversity (e.g., increase housing density<sup>15</sup>), and decarbonize the energy sector (e.g., build wind turbines and transmission lines<sup>58,59</sup>). The tension is fundamentally the same at the regional level as it is globally: communities have preferences (e.g., property values, an area’s “rural character”) that can be at odds with land uses that benefit the greater good. The utilitarian ethics of climate action routinely conflict with classical liberalist rights-based ethics.

In a liberalist and federalist political system like the U.S., characterized by “the devolution of government power to the states and localities” on the principle of enhancing individual liberty<sup>60</sup>, building out the green energy infrastructure required to ameliorate the global climate emergency often requires willing communities that agree to host industrial-scale projects<sup>19</sup>. However, a recent assessment found that, “in nearly every state, local governments have enacted policies to block or restrict renewable energy facilities,” and that local opposition is growing—especially in the states that have seen the most renewable energy development<sup>16</sup>. Even when communities are unsuccessful in blocking climate-friendly development projects, they routinely delay them and significantly increase their costs by filing lawsuits and demanding more hearings, longer public comment periods, additional impact studies, etc.<sup>14</sup>. Though often portrayed as kneejerk NIMBYism or a partisan rebuke of climate action, some scholars have recently argued that rural communities are expressing legitimate distributional and procedural justice grievances. That is, they feel they are expected to bear the burden of industrial projects while most of the energy—and profits—flow to urban areas<sup>18</sup>, and that they are routinely excluded from meaningful participation in siting decisions<sup>21</sup>. Notwithstanding these critiques, a growing number of climate advocates imply that the solution to local resistance toward renewable energy projects is concentrating more power in the state to make land-use decisions in the public interest (e.g., zoning preemption, eminent domain<sup>14</sup>)—Tocqueville be damned.

Under American federalism, however, the promise of state empowerment as a solution to climate inaction has been undermined by the fact that many conservative state legislatures in the last decade or so have created a bevy of “new laws that stop environmental action in its tracks”<sup>61</sup>. In addition to implementing or maintaining pro-extraction policies, they have commonly turned to *preemption*—the passing of laws that prevent municipalities and counties from enacting green policies that conservative elites don’t like, such as bans on plastic bags or natural gas hookups in new buildings. Even though the Republican party traditionally espoused so-called home rule, it has “changed its tune in state legislatures as more cities are controlled by Democrats”<sup>61</sup>. Most relevant here, within the “federal policy vacuum” that effectively cedes fracking regulation to the states<sup>62</sup>, many major oil- and gas-producing states (including Pennsylvania) have enacted laws that preempt municipalities’ ability to regulate oil and gas infrastructure through zoning<sup>63</sup>. After Denton, Texas, voted to ban fracking

(see ref. 64), the state nullified the city's law by making it illegal for local governments to ban fracking. Even though Pennsylvania's Supreme Court ruled in 2013 that the state preemption of local zoning regarding fracking was unconstitutional, the state's Department of Environmental Protection (DEP) maintains that there is "no constitutional right to local self-government" regarding fracking<sup>65</sup>.

While it has disproportionately been conservative legislatures that have neutralized community resistance to their pet priorities (e.g., maintaining a fossil fuel infrastructure) via preemption, several "blue states" have recently followed suit. Most notably, in order to meet self-imposed targets for achieving carbon neutrality, both Michigan and Minnesota introduced "permitting reform" bills in the past year that would severely reduce—if not strip—communities' authority to ban or restrict the siting of utility-scale solar and wind projects<sup>66</sup>. While lauded by climate advocates, these permitting reforms have sparked a local control countermovement (see [www.micitizenchoice.org](http://www.micitizenchoice.org)) and some criticism from environmental justice organizations, who worry that disadvantaged communities will be locked out of public participation<sup>66</sup>.

Returning to the issue of fracking, states, not the federal government, are in the driver's seat regarding oil and gas drilling policy in most of the U.S. (excepting federal public land). Only one state other than New York with proven shale gas deposits—Maryland—has banned fracking. California is phasing it out, but the industry has been documented in more than thirty states<sup>67</sup>—most of which happen to be in the more rural, conservative "heartland" of America, where legislators consistently seek to lock in fossil fuel extraction<sup>8</sup>. In service of this agenda, conservative legislatures have created laws that uniquely exempt oil and gas production from municipal zoning ordinances. (Illustrating how much state decisions regarding local control over certain land uses can be driven by political expedience rather than constitutional principles, Ohio passed a bill that empowered towns to ban industrial solar and wind projects in the name of "community control" and preserving rural landscapes even though towns are not allowed to ban fracking<sup>68</sup>.) In the case of fracking in conservative-controlled states, the consolidation of power over land use decisions works against climate action by thwarting municipalities' efforts to restrict or ban the industry locally. Thus, while community empowerment may enable NIMBYism that blocks new green infrastructure, it may also enable local resistance to the expansion of fossil fuel infrastructure.

In sum, the political dynamics surrounding fracking in middle America, where state legislatures largely cooperate with industry and residents are skeptical of top-down environmental regulation<sup>22,33</sup>, suggest that advocating to overturn state preemptions of local control over fracking could be a pathway to climate action. Aforementioned studies have documented concerns with the oil and gas industry in "fracking communities"<sup>5</sup>, critiqued the legal-political structure that facilitates extraction, and shown how conservative ideology functions as a barrier to environmental regulation and climate action. But we know far less about when or how conservative partisanship may align with environmental protection efforts. Relatedly, scholars have begun to argue that we should take procedural justice issues surrounding the siting of industrial-scale renewables seriously, but few unpack how sensitivity to local control may also help enroll rural and conservative residents in environmental politics. In addition to its *pragmatic* appeal, the push for "community rights" regarding fracking regulation has the potential to appeal *ideologically* to rural, conservative residents who, as prior research shows<sup>7,69</sup>, view civic association and community self-rule as prized "rural values" that are worth defending in and of themselves.

It has long been known that vast reserves of methane (and oil) lay trapped inside layers of shale a mile or more underground. But "hydraulic fracturing," in which pressurized water, sand, and chemicals are injected into drilled wells to fracture the shale, remained inefficient until it was combined with the novel technique of horizontal drilling in the 2000s. The new capacity to drill "unconventional" wells a mile or more laterally along the shale layer unlocked access to enough fossil fuels to supply U.S. energy needs for decades<sup>70</sup>. In addition to its potential to revitalize "rustbelt"

manufacturing economies, fracking has been held up as a patriotic tool that can enable "energy independence" at home and help America's allies abroad wean themselves off of Russian petroleum<sup>71,72</sup>. What's more, because methane combustion emits about half as many pounds of carbon dioxide per million BTU of energy as does coal, until recently shale gas was widely considered a "bridge fuel" to renewable energy—even by Democrats and environmentalists<sup>73</sup>.

Fracking has arguably not met expectations. While total U.S. energy exports overtook total energy imports in 2019 for the first time in 67 years, energy independence remains elusive and much of the methane extracted in Pennsylvania and other states is destined to be liquified and sold abroad<sup>74,75</sup>. While land leasing provided a lifeline to struggling small farmers and drilling created temporary "booms" on some downtrodden Main Streets<sup>8</sup>, recent research by the Ohio River Valley Institute<sup>76</sup> shows that the economies of Appalachian shale communities have fared *worse* than comparable communities not reliant on fossil fuel extraction (see also ref. 77). Regarding greenhouse gas emissions, the methane leakage associated with fracking is so pervasive that many scientists now think it cancels out the carbon emissions saved from substituting natural gas for coal<sup>78</sup>. Climate advocates generally agree that virtually all fossil fuel extraction must cease in order to avoid catastrophic climate tipping points<sup>79</sup>. Perhaps most (in)famously<sup>80</sup>, fracking has been linked with groundwater and air contamination and a number of health maladies<sup>81</sup>, from respiratory ailments to childhood leukemia<sup>82</sup>. While concerns about the health and environmental impacts of fracking have prompted bans in some countries (e.g., France) and have helped make it a contentious issue in the United States<sup>80</sup>, unconventional drilling continues apace in much of the U.S., with its ebbs and flows tied to global energy markets and geopolitics (e.g., Russia's invasion of Ukraine) as much as domestic politics (e.g., presidential elections).

The Marcellus shale formation, which extends over 100,000 square miles from the southern tier of New York to West Virginia, is the largest and most productive deposit of natural gas in the U.S. Given that Pennsylvania commands the largest share of the Marcellus's estimated 300–500 trillion cubic feet of gas and that there is a ban on fracking in neighboring New York, and given its proximity to East Coast energy markets, the state has been at the center of America's shale gas boom<sup>7</sup>. Over 14,000 unconventional wells have been drilled or are in development there since 2004, and over 23,000 have been permitted<sup>83</sup>. To access the gas, energy firms have leased the mineral rights from thousands of landowners, who were rewarded with signing bonuses worth as much as a thousand dollars per acre (or as little as \$5) and are also entitled to royalties if gas is extracted from beneath their property. Former governor Ed Rendell (D) generated \$413 million for the Commonwealth of Pennsylvania by auctioning leases for over 138,000 acres of state forest and game land<sup>84</sup>; the state also collects millions of dollars in "impact fees" annually from energy firms, which are given directly to impacted municipalities.

Fracking regulations "have been subject to considerable contestation"<sup>7</sup> in Pennsylvania, even as industry enjoys relatively durable bipartisan support among political elites. (Democratic governor Ed Rendell, 2003–2011, partnered with the Republican legislature to facilitate the gas boom and was a major industry booster; Democratic governor Tom Wolf, 2015–2023, worked with his Republican counterparts to pass a massive tax package that encourages methane extraction and consumption.) As a "home rule" state, Pennsylvania has historically granted a notable amount of lawmaking authority to its municipalities. However, in February 2012, governor Tom Corbett took advantage of a Republican government trifecta (controlling both chambers of the state legislature and the governor's office) to pass Act 13, a statute amending the Pennsylvania Oil and Gas Act. In addition to introducing the impact fee (but, notably, not a severance tax), Act 13 preempted municipalities' sovereignty to control fracking. So long as proposed fracking infrastructure met state standards (e.g., a gas well set back 500 feet from a private water well), local land-use boards had to issue a permit as a "conditional use"—even in areas zoned rural or residential, where industry was customarily prohibited as an "incompatible" land use<sup>8</sup>. Seven of the state's municipalities sued almost immediately, as did environmental



groups. In December 2013, the state Supreme Court (in *Robinson v. Commonwealth*) struck down zoning preemption as unconstitutional, not on home rule grounds, but because it violates the “Commonwealth’s duties as a trustee of Pennsylvania’s public natural resources” under the state constitution’s Environmental Rights Amendment<sup>85</sup>. Despite this decision, little changed on the ground. In many instances, municipal Boards of Supervisors (BOS) continued to rubberstamp permit applications, whether because fracking was already “baked in,” they feared a lawsuit from the energy firm pursuing a permit if they rejected it (which was not unusual), or because of perceived community support for the industry<sup>8</sup>. Residents who sued to overturn BOS permit approvals that they felt threatened their properties or communities (see, e.g., *Gorsline v. Bd. of Supervisors Fairfield Twp.* 2018) found little success in courts. In the few instances where towns have tested their ostensible home rule authority in the wake of *Robinson v. Commonwealth* by voting to ban or restrict fracking infrastructure, they have been sued by the state DEP for “unlawfully interfer[ing] with state oil-and-gas policies”<sup>65</sup>. A grand jury impaneled by then-attorney general (now governor) Josh Shapiro (D) concluded in 2020 that Pennsylvania regulators had failed to protect the safety and welfare of residents from the risks of fracking and that the DEP was reticent to address industry malfeasance<sup>86</sup>. Polls suggest that support for fracking is flagging among Pennsylvania voters, with a majority in favor of phasing it out<sup>87</sup>, but Shapiro has fostered cooperation with the industry as governor rather than pursue the tougher regulations that he proposed as attorney general<sup>88</sup>.

Although Williamsport, once “the lumber capital of the world,” is a small city (population 27,403) with a declining population, it is the largest urban area in north-central Pennsylvania. As such, the county seat became the regional economic and administrative hub of fracking—the “Energy Capital of Pennsylvania,” according to the slogan adopted by its former, pro-fracking mayor. Several petroleum companies set up shop in nearby industrial parks; new hotels were constructed to house an influx of itinerant workers. In the year before this study began (2012), Lycoming County (which surrounds the city) saw more unconventional gas wells drilled (208) than any other Pennsylvania county<sup>83</sup>. This is what drew me to study the area.

Lycoming County is significantly whiter and less poor than Williamsport (91% vs. 77% white; 12% vs. 25% poverty rate). The area outside of the city is quite rural, consisting of small family farms and hamlets interspersed among dense forests and the Appalachian foothills, and very conservative. All of its state representatives are Republican. Trump carried about 70% of the county vote in the 2016 and 2020 presidential elections; his numbers are significantly higher when the urban Williamsport precincts are excluded. Almost all of Lycoming County’s 1200 or so unconventional gas wells drilled to date are in the countryside; it is here where landowners leased for drilling, and where permit hearings for new infrastructure are held. Many of the long-term rural residents “appeared to hold deep moral commitments both to individualism” and to civic association<sup>7</sup>. Government distrust was rampant, individual sovereignty and property rights were “routinely perceived as God-given,” and many claimed to live by the libertarian mantra, “live and let live”<sup>7</sup>. As evidence of residents’ commitment to local democracy, even Board of Supervisors (BOS) meetings in sparsely populated townships commonly drew a critical mass of residents and produced spirited deliberation over mundane public matters like whether to replace an aging salt truck.

## Results

### Discovering the limits of community control over fracking

Historically, zoning has been the go-to tool for small towns to manage the tensions between private property rights and the common good. The rural municipalities I studied designated most of the populated areas within their borders as Residential-Agricultural (R-A) zones. The R-A designation is meant to preserve a “quiet, medium-density residential environment” and the “continuation of agricultural activities and the preservation of farmland” (*Gorsline v. Bd. of Supervisors Fairfield Twp.* 2018: 186). The siting of an industrial use, if not outright forbidden in an R-A zone, requires the applicant to apply for a special exception and to appear before the BOS and community members at a public meeting. The burden of proof is on the applicant to

demonstrate that the proposed “conditional use” does not harm others’ property or degrade the area’s R-A character; neighbors may testify about any concerns or objections they have (or voice support). The BOS considers the evidence and testimony and decides whether to issue a permit. Gas wells and other fracking infrastructure (e.g., pipelines, water withdrawal sites, compressor stations) similarly require a public hearing and a BOS-issued “conditional use” permit. (The township boards I observed typically consisted of three supervisors, elected by township residents. Supervisors often had no prior political experience and were paid almost nothing for serving)

Many decisions of local consequence—not just land use—were made at BOS meetings, which were often well-attended. Even in outlying municipalities with only several hundred residents, I encountered overflowing parking lots and standing-room-only meetings attended by dozens of locals. Participants studied the issues and cherished their ability to deliberate what course of action was in the public interest; to them, this was archetypal self-governance in action. (It is difficult to know, however, if those who regularly participated in BOS meetings were representative of the township population as a whole; critics may question whether it is truly democratic, or fair, to grant so much decision-making power to whoever has the time and inclination to appear at BOS meetings<sup>14</sup>.) At a Wysox township meeting in a cramped outbuilding with crusty drop ceilings lit by fluorescent bulbs, community members were asked one by one if they wanted to raise anything with the supervisors. An elderly woman said the supervisors should pay a particular loan on a quarterly basis rather than annually to reduce the interest; they briefly conferred and agreed. A young man suggested that the township use its impact fees to fund the all-volunteer fire department rather than increase the millage rate; the supervisors promised to consider it. The supervisors accepted residents’ suggestion to buy a new township truck from John, who owned a local dealership. The audience participated as much, and occasionally more, than the supervisors; the BOS chairman, wearing a t-shirt and faded cap, humbly asked community members for explanations and advice.

BOS meetings fostered an esprit de corps in which township supervisors and community participants were coequals in local decision-making. Residents who regularly showed up at BOS meetings came to expect that they had a say in any and all matters that could potentially impact them or their community—including, even, others’ private land use decisions. For instance, at a packed Upper Fairfield township meeting, supervisors considered a local trucking company’s request to make permanent a temporary gravel parking lot it had built on a strip of leased land. Several participants who said they lived nearby voiced their opposition to the proposal, alleging that the road couldn’t handle the twenty or so heavy trucks and that the lot was unsightly in the bucolic R-A zone. After hearing these concerns, the BOS rejected even a temporary extension of the permit and informed the applicant that the trucks “gotta be out of there immediately.”

Although fracking infrastructure projects were subject to the same BOS process, residents discovered that their ability to influence the outcome had been neutered. So long as a proposed gas well, pipeline, compressor station, etc. met the requirements of the Pennsylvania Oil and Gas Act, a township BOS was *required* to allow it. This reduced the township supervisors to a rubber stamp regarding fracking land-use decisions, and reduced conditional-use permit hearings to an empty simulacrum of civic engagement. Similarly, Briggles<sup>64</sup> notes that, in places like Denton, Texas, zoning rules bar uses as innocuous as a bakery from residential districts on the grounds that they are “incompatible land uses.” Yet caravans of diesel trucks, pipelines, towering drilling rigs, and flaming flare stacks must by law be considered compatible with R-A zones.

Residents who regularly participated in BOS meetings were shocked to discover through conditional use hearings that their town lacked jurisdiction over fracking and had to allow it almost anywhere. In the same Upper Fairfield meeting where the BOS rejected a truck parking lot on the grounds that it was inconsistent with the goal of preserving the area’s R-A character, it considered Inflection Energy’s proposal to “drill a well or wells” on nearby leased land. For over two hours, the three supervisors, all Republican white males dressed in blue jeans and sneakers, sat staid in front of a large American flag hung from the white cinderblock wall as Upper Fairfield

residents in metal chairs voiced concerns about the impacts that the gas wells may have on their community. One young father of two girls, Joe Earnest, was startled to discover that the proposed development was just hundreds of feet from his house. He wondered aloud how such a large industrial project could be allowed so close to his home without even consulting him, and he asked how Inflection and the BOS would ensure that his water well and his property value would not be impacted. The most commonly raised issue was truck traffic. Audible groans filled the low-slung building when Inflection's representative acknowledged that delivering the water needed to frack the wells would require thousands of big rig truck trips on winding, narrow roads. One audience member worried about how their presence would impact emergency vehicles, another that they may endanger children, and another that the roads would be "chewed up." Several complained that the trucks' engine brakes were too loud and would echo for miles. One supervisor's skepticism that trucks could navigate a hairpin turn led to the discovery that Inflection had not even performed a basic traffic study. In fact, there was a lot left unsettled at the moment the BOS was being asked to approve the project—e.g., how many gas wells would be drilled onsite, or how the millions of gallons of wastewater produced would be managed.

With so many questions unanswered and so many residents making the case that the project was inconsistent with allowable land uses in an R-A zone, Joe and others seemed convinced that the permit would be rejected—or at least delayed until Inflection provided convincing evidence that it would mitigate the quality-of-life impacts. However, when the BOS reconvened the following month, residents got an unwelcome civic lesson when the supervisors quickly approved the permit after the energy firm said it had studied the country road in question and concluded that it posed no safety concerns. While Joe felt that his elected representatives had sold him out, the truth was that the BOS had no choice but to approve the permit. It was a forgone conclusion; the hearing was a formality. The BOS couldn't even require the energy firm to specify in advance the number of wells it would drill, limit its use of engine brakes, reduce traffic by using a temporary water pipeline rather than tanker trucks, or perform baseline water tests on all nearby houses, because this would have meant placing more stringent rules on the energy firm than the state required. Because the regulation of oil and gas is a "statewide concern," these matters were "within the sole authority of the state"<sup>89</sup>.

Even the one instance I witnessed in which a township BOS denied a fracking-related permit is instructive. Old Lycoming township held a series of public hearings to consider a conditional use permit for a water withdrawal facility, which would siphon up to 225,000 gallons of water a day from Lycoming Creek to service gas wells further north. As many as 150 residents whose homes relied on shallow water wells fed by the creek showed up at the volunteer fire hall to passionately denounce the proposal on the grounds that it threatened their water supply. Some waxed poetic about the preciousness of water, others screamed or wept, and a few even made veiled threats to the applicant in what amounted to a flexing of grassroots community anger against the idea of the petroleum industry exploiting this public resource for profit. But the township solicitor reminded residents that the Susquehanna River Basin Commission (SRBC) had already certified that the proposed maximum water withdrawal would have "no adverse impact" on the Lycoming Creek Watershed, and that the BOS didn't have the authority to dispute the agency's assessment or revisit its decision to approve the proposal. This led residents to pointedly ask what was the point of the proceedings; the solicitor responded that residents had to prove that the proposed project would have "unmitigable adverse effects" on the residents' safety and wellbeing. At subsequent follow-up hearings, residents presented evidence about the hazards allegedly posed by the 50–60 trucks that would come and go from the site each day, which seemed to contradict the applicants' engineering study. The strategy worked. The BOS denied the water withdrawal permit on the grounds that it "did not comport with the health, safety, and welfare needs of our citizens," and it noted that the testimony of the engineer working for the applicant was "seriously flawed" and that the application was troublingly vague. Nodding to the

traditional power of municipalities to use zoning to maintain the character of communities, the BOS also argued that the applicant didn't give "much effort" to "address the generally residential characteristics of the neighborhood." But the victory was short-lived. A half-year later, a Lycoming County judge overturned the permit denial, and in doing so affirmed that the SRBC had sole authority over determining rules regarding water withdrawal. Three months after the judge's decision, the Old Lycoming BOS reconvened with its tail between its legs to approve the permit. Even after the overturning of Act 13 zoning preemptions, the home rule was overruled.

Landowners' experience with fracking on their own properties also evidenced frustration with the community's inability to restrain undesirable industry practices. George Hagemeyer, a lifelong bachelor and retired custodian who lived on a 77-acre ancestral farm in Trout Run, considered himself a huge proponent of fracking—even before he received a \$34,000 check as his first installment of royalties for the methane that flowed out of the six gas wells drilled in his backyard. Like Scott McClain, George was proud to have leased his land and said he didn't think anyone else—from his neighbors to the government—should have a say in his decision. "It's my land," George defiantly told me when I first met him, "I'll do as I damn well please." Over time, however, George's enthusiasm waned as he came to realize the extent to which he had become a tenant on his own property. Security guards sometimes stopped him from accessing his own driveway; truck caravans came and went at odd hours along the gravel driveway that led past his backyard and down to the wellpad; the energy company placed a temporary trailer camp on his property, without his consent, to house workers that were preparing to drill on a neighbor's property. George was appalled that practices like these were allowed, and repeated calls to his local representatives and county commissioners brought the same refrain: they were powerless to create and enforce any additional rules to mitigate against George's quality of life issues. He began attending BOS meetings, sometimes even in neighboring townships, to testify about his experiences with the hope that he might help supervisors and residents make land-use decisions that would insulate them from some of the negative impacts that he absorbed—only to discover that the BOS was as powerless as he was. Fracking had made George a "shaleionaire," his property suffered no environmental calamity; and he maintained his original skepticism of environmentalists and their aim to ban fracking. Yet when George came to speak to my class in New York City, to my surprise he said he regretted leasing his "daddy's land" and felt that it was unfair that petroleum companies seemingly had free reign on his property and in his community.

## Discussion

Many lessors' and BOS participants' zeal for fracking faded over the years as a result of their inability—individually and collectively—to influence how fracking unfolded on their land and in their communities. Importantly, this ethnographic finding reveals a change in perspective among conservative partisans that would be hard to detect in a cross-sectional survey because few turned against the industry or insisted on greater government regulations. Contravening traditional social movement theory expectations of "cognitive liberation" leading to activism<sup>90</sup>, even six families I followed who wound up with contaminated water and who sued the offending energy firm refused to denounce the industry publicly, or even privately to me. "We're not against gas drilling," Tom Crawley insisted, emphasizing that it benefited "a lot of people" in his community. His next-door neighbor, Doyle Bodle, maintained that no one "held a gun to my head" to sign a lease and that the solution to his problem was through the civil courts (e.g., a settlement) rather than more stringent DEP regulations. What's more, even though the six families struggled to find a lawyer they could afford and felt abandoned by their (pro-fracking) state representative, they refused the Responsible Drilling Alliance's offer of pro bono legal advice "on the grounds that they did not want to be associated with antifracking elements"<sup>91</sup>. Indeed, even as concerns over fracking grew over time in the county<sup>40</sup>, the "fractivists" were unable to attract new members or donations.

Over the eight years I followed them, the RDA (despite its name) came to the firm conclusion that “there’s no such thing as responsible drilling;” in turn, it made the call for a state ban on the industry its core message. This was anathema to most locals’ libertarian-leaning partisan ideologies, which led them to distrust almost any solutions emanating from Harrisburg (let alone Washington, DC) and to view restrictions and bans on fracking as a threat to private property rights. It should, most thought, be up to landowners whether or not to allow drilling underneath their properties, since they own the subsurface. And it should be up to the community to decide if and when certain fracking infrastructure is overly disruptive. Residents generally liked the idea of their communities hosting shale gas extraction in some form, both for the ostensible economic benefits it might bring to their so-called Rustbelt region and because they endorsed the idea of energy independence. But what they didn’t bargain for was that zoning preemptions would give the industry *carte blanche* in their communities. In short, many residents saw the troubles they experienced with fracking not as an *environmental* issue but as a *democracy* issue (see also<sup>64</sup>): locals didn’t have enough say in dictating the pace and scope of gas infrastructure; if they did, they believed they could harmonize fracking with R-A character.

Other scholars of rural fracking communities in Pennsylvania and elsewhere (e.g., Colorado, Louisiana) have also documented feelings of disempowerment—especially among lessors, who often had little influence over their lease terms or recourse if and when lessees violated those terms; this has been conceptualized as a form of procedural injustice<sup>64,67</sup>. Relatedly, recent studies of rural resistance to industrial solar and wind projects suggest that opposition is fueled by a felt lack of meaningful community input<sup>18,19</sup>. This paper complements that body of work by fleshing out the experience of collective disempowerment vis-à-vis zoning preemptions. More importantly, it also takes the next step by asking about how the “extractive subjectivities”<sup>20</sup> forged by their experience with fracking may open rural, conservative residents to forms of environmental advocacy that align with their principles. To be sure, a number of scholars have documented classic instances of “conversion,” in which locals’ negative experiences with fracking spurred them to become anti-fracking activists<sup>41,44</sup>—which is a more common occurrence in liberal and urban areas<sup>64,91</sup>. But less explored is how environmental advocacy can be crafted to resonate with rural, conservative residents whose experiences with fracking have created deep ambivalence about certain aspects of the industry’s expansion, but who don’t seek to shut it down and who remain deeply skeptical of both environmentalist messages and messengers.

My observations of residents’ growing dissatisfaction with the inability of their township BOS, county commissioners, and other local representatives to influence the placement of fracking infrastructure—especially in comparison to most other land uses, from liquor licenses to cell phone towers—lead me to conclude that *local control* is an issue that environmental advocates could seize upon to craft fracking advocacy that resonates with that many called “rural values.” Community empowerment shouldn’t be a foreign concept to either climate advocates or scholars. It is the linchpin of Ostrom’s model of sustainable and equitable resource management. It is also at the core of classic EJ campaigns against the disproportionate siting of environmental hazards in marginalized communities, as well as recent calls for replacing the corporate, centralized fossil fuel economy with a decentralized “energy democracy” governed by communities<sup>92</sup>. As societies increasingly reckon with the historical legacy of the “global racial empire”<sup>93</sup> created by colonialism, bolstering the ability of Indigenous groups and their subnational territories to manage their own resources and land uses has also become a common EJ refrain. But, perhaps because climate advocates increasingly frame municipal zoning in particular as a tool used by NIMBYists to block climate-friendly projects, the zoning preemptions that many states enacted for fracking have not been widely identified as an “institutional target”<sup>94</sup> for mobilization.

To be clear, local control tools such as zoning are functioning as barriers to climate action in the U.S. (and elsewhere) by hindering the buildout of a sustainable energy infrastructure<sup>16</sup>. What’s more, the scale of the infrastructural transformation required to meet climate goals necessitates the

conversion of some open/agricultural space (though critics may exaggerate the potential impact<sup>95</sup>). This suggests that climate action that is sufficient to meet the crisis will at times require favoring utilitarian goals over the sovereignty of communities, and even individuals<sup>55</sup>—e.g., streamlining the permit process for the siting of renewable energy projects and restricting fossil fuel extraction on both public and private lands. How to balance individual/community rights and the public good is not a question I can answer here. My thesis is more circumscribed and strategic: given that many oil- and gas-producing states have implemented zoning restrictions that uniquely apply to fracking, advocates could *target fracking preemptions in particular* as a means of crafting climate action that resonates with rural and conservative residents who are skeptical of state-led environmental policymaking. Relatedly, on procedural justice grounds<sup>18</sup>, and given America’s history of empowering self-rule and enshrining private property rights<sup>8</sup>, my findings help specify why it may be counterproductive for state policymakers to adopt the “decide-announce-defend” model<sup>96</sup> of energy siting in the pursuit of carbon neutrality—lest they further alienate rural and conservative residents from climate action and fuel what Cramer<sup>97</sup> calls the rural “politics of resentment.”

One progressive environmental advocacy group, the Community Environmental Legal Defense Fund (CELDF), has partnered with several rural communities in Pennsylvania and Illinois to fight for home rule over fracking. The CELDF, Buday<sup>17</sup> writes, “argues that patterns of state preeminence have allowed corporate rights to supersede citizen rights,” and that the solution is for communities to adopt their own “Community Bill of Rights” that assert the community right to self-rule regarding fracking. This frames the problems associated with fracking in terms of civil rights and civic association (which echoes the rhetoric of the movement against Michigan’s renewable energy preemptions; [www.micitizenchoice.org](http://www.micitizenchoice.org)). While Buday has examined one case in which a Southern Illinois anti-fracking group collaborated with CELDF to create a “Community Bill of Rights ordinance banning fracking in the county,” her focus is on how this (ultimately unsuccessful) approach was necessitated by the grassroots organization having been pushed aside by larger, more professional environmental groups in state-level policy conversations. Our concern here is with how such an approach resonates with local residents. Closer to my case study is CELDF’s collaboration with residents of the tiny Western Pennsylvania township of Grant. Although its residents reside in “Trump country” and mostly oppose a ban on fracking in the state, many became worried about a proposed wastewater injection well that, in their view, threatened nearby drinking water. In response, they voted to create a Community Charter—written with the help of CELDF—that, among other things, asserted the township’s right to ban injection wells in the interest of residents’ health and safety. Both the energy firm seeking the injection well and the DEP sued the township on the grounds that only the state has the authority to regulate oil and gas development. This denial of local sovereignty was so abhorrent to Grant residents that they in turn voted to legalize nonviolent direct action against any corporate or state entity that infringed upon community self-rule. Grant residents continued to litigate their right to community home rule for a decade. Although the state’s Commonwealth Court tossed out Grant’s Home Rule Charter before the case went to trial, it is currently on appeal before the state Supreme Court<sup>98</sup>. The injection well applicant, meanwhile, has given up and withdrawn its permit application. While the legality of Grant’s Community Charter remains under dispute, it is apparent that the framing of the injection well issue as a “democracy problem” is what galvanized many locals<sup>99</sup>. It is plausible that communities like the one I studied would be similarly receptive to a movement to enhance local control, even if their goals were more modest than banning certain infrastructure entirely.

As Buday<sup>17</sup> notes, the ability of municipalities to successfully litigate for local control “is relative to the way ‘home rule’ authorities are written into each state constitution.” While cataloguing such distinctions and how they have been adjudicated in court is beyond the scope of this paper, suffice it to say that most oil- and gas-producing states have constitutionally recognized some form of home rule. Other provisions, such as Pennsylvania’s Environmental Rights Amendment, may provide additional support for home rule charters (e.g., a municipal ban on fracking may be legally justified as



upholding the constitutionally granted right of each resident to clean air and water).

To be sure, facilitating greater local control over fracking won't be enough to keep fossil fuels in the ground, especially since many "heartland" residents seem to generally support the industry and oppose a fracking ban. However, precisely because of the implausibility that "red" states will restrict fracking *at all* in the near future, targeting the zoning preemptions that Pennsylvania and other states have carved out for fracking—which make it a "uniquely invasive industry"<sup>64</sup>—appears to be a practical short-term strategy that could slow fossil fuel expansion. Across the U.S., "communities are asserting their right to weigh in on policy making by challenging state preemption"<sup>17</sup>. To my knowledge, every community that has attempted to create its own municipal ordinances regarding fracking and/or initiated lawsuits against zoning preemption wants *more* restrictions than their state requires—even in conservative communities<sup>8</sup>. Moreover, as the industry itself has conceded<sup>8</sup>, the mere existence of a patchwork of distinct regulations across the towns and regions where energy firms operate would make it more difficult and expensive to build out fracking infrastructure. Even if campaigns against zoning preemptions are beaten back by conservative legislatures (as they have been in Texas, Colorado, and Pennsylvania), they can serve a solidaristic function—as can incorporating community voice into state-led renewable energy projects<sup>19</sup>. Regardless of who is to blame, many conservatives and rural residents feel alienated from—if not hostile toward—environmentalism and environmentalists<sup>22</sup>. The message of local democracy resonates with conservative, small-town sensibilities<sup>69</sup>, and therefore may foster a sense among such communities that their concerns have a legitimate place in broader environmental protection efforts.

## Methods

The data for this article are drawn from observations of, and interviews with, over 100 residents of Greater Williamsport, Lycoming County, PA, carried out between 2013 and 2021. I rented an apartment and lived in Williamsport for eight months in 2013, and I routinely followed up with my participants and made return visits to the region for the next eight years. I interviewed county and municipal officials and state regulators, and I attended dozens of township Board of Supervisors (BOS) hearings and city council meetings where fracking was discussed and permits for fracking infrastructure were approved. I also frequented general stores, butcher shops, cafes, and churches across the county, which allowed me to get to know over two-dozen rural landowners who leased their estates for drilling. I walked their properties with them, watched as drilling and fracking activities commenced in their yards, and followed them to public meetings, barbecues, Little League games, and so on. My participants skewed toward working-class (over half did not attend any college and held jobs such as farmer, custodian, or truck driver), though there was considerable socioeconomic variation (including three college professors and a nurse); all were white. I also followed ten anti-drilling advocates who started a group called the Responsible Drilling Alliance, who were wealthier and more progressive than the lessors. All interviews and public events, and many encounters, were audio recorded (with consent). In settings where audio recording was not feasible, contemporaneous notes were taken. All of my participants elected to use their real names; the place names described herein are also real. Identifying people and places facilitates sociological comparison and revisits<sup>100</sup>. The Institutional Review Board at NYU approved my research protocol and classified it as "exempt" (reference number: 12–9185). Given space constraints, I have kept this methods section brief. For more details on how this study was carried out, and what locals thought about my presence and the larger project, see refs. 7,8.

## Data availability

The fieldnotes and interview transcripts for this study are not publicly available. However, I have taken the unconventional step of naming people and places (with my subjects' permission) in the interest of transparency and reanalysis.

Received: 30 April 2024; Accepted: 22 July 2024;

Published online: 08 August 2024

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## Acknowledgements

I thank the residents of Lycoming County, PA, for welcoming me into their lives and allowing me to “stalk” them, and the two anonymous peer reviewers for their comments.

## Competing interests

I am one of the Associate Editors of the special issue in which this article appears, “Barriers and Pathways to Climate Action” (An in-house Editor of *npj Climate Action* managed the reviews and decision-making for this article). I received no funding for this study and am unaware of any other competing interests.

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